

This species belong to the group of *C. proteus* Gundlach, and like it is found in Gibara, Cuba. *C. aguayoi* is restricted to a very small area about 4 miles from *C. proteus*. It differs from *C. proteus* by its smaller size and by the shape of the shell, the apex being rounded, less obtuse. In *C. proteus* the whorls are very flat and irregularly at the sutures, often protruding slightly beyond the next whorl. An occasional specimen of *C. aguayoi* shows a trace of the peculiar condition.

CERION AGUAYOI BEQUAERTI, subsp. nov. Plate 6, fig. 8.

This subspecies differs from the typical form in being larger, more cylindrical and the spire more tapering. In the specimens examined by us there is no indication of the "wide point" which occurs just above the middle in both *C. proteus* and *C. aguayoi*. The locality of *C. aguayoi bequaerti* is about 50 Km. east of Gibara, the locality of the other forms.

Length	Width	Ap. length	Ap. width	
30.5 mm.	15 mm.	8 mm.	7 mm.	<i>Holotype</i>
30.5	14	8	7	<i>Paratype</i>
29.5	14.5	7	8	<i>Paratype</i>
29	14.5	7	8	<i>Paratype</i>
28	15	8	7	<i>Paratype</i>
25.5	13	6.5	6	<i>Paratype</i>

Holotype: M. C. Z. No. 86177, dunes at Lucrecia light-house, near Banes, Oriente, Cuba. *Paratypes*: M. C. Z. No. 86176.

This subspecies is probably a direct offshoot of *C. proteus* stock and apparently may be a form of parallel development similar to that of *C. aguayoi*. However, it seems best in our present understanding of these forms to consider it a subspecies of the latter species to which it more closely approximates.

NEW SPECIES OF OPISTHOSIPHON FROM EASTERN CUBA

BY C. G. AGUAYO

This paper is the first of a series to be published on Cuban Mollusks, for which the author is indebted to the Guggen-

heim Foundation in awarding him one of its fellowships which permits him to study in American Institutions. The author also wishes to thank Dr. Thomas Barbour for permitting him to work in the Museum of Comparative Zoology; Dr. Carlos de la Torre for many wise suggestions, and Mr. William Clench for his useful criticism.

The malacological fauna of the region of Holguin, Cuba has been almost unknown; Gundlach and Arango had obtained but very few species from this locality. During the year 1914, Dr. Carlos de la Torre and the late John B. Henderson visited "El Yayal", five miles south of the town of Holguin, but as yet the results of their trip remains unpublished.

From 1926 to 1931 I made several excursions to that region, and had the opportunity of finding several new species of land shells among which, those of the genus *Opisthosiphon* were very remarkable. They constitute a group of umbilicate shells quite different from most of the remaining Cuban species of that genus.

In addition to the new species I include here some notes relating to *Opisthosiphon aguilerianum* (Ar.), whose generic position and type locality have been fixed by the Cuban naturalist de la Torre, who has been kind enough to permit me to publish an abstract of his notes about this species.

OPISTHOSIPHON AGUILERIANUM (Arango).

Cyclostoma aguilerianum Arango, Ann. Real. Acad. Cienc. Med. Fis. Nat. Habana, t. XII, p. 280. 1876.

Tudora ? aguileriana Arango, Fauna Malacologica Cubana, p. 21. 1878. Crosse, Journ. Conch. 39, p. 301. 1890.

The generic status of this species was not established by Arango in his original description owing to the lack of the operculum, but later he refers it to the genus *Tudora* on account of the similarity of the shell to *Tudora moreletiana* Petit, now an *Opisthosiphon*. He failed to assign the locality and only says: "Hallado en la Isla por Mr. Wright".

De la Torre considered it as an *Opisthosiphon*. He says: "In my opinion *Cyclostoma aguilerianum* was a Bahama

species related to *Op. bahamensis* and I supposed it to be wrongly considered as a Cuban shell, but three years ago I received some shells from Gibara, Eastern Cuba, sent by Dr. Lauredano Gonzalez, in which I recognized the *Op. aguilerianum* Ar., whose type locality can now be established with certainty."

The specimens given to me by Dr. de la Torre range from 9.5 to 11 mm. in length, and from 5.5 to 5.8 mm. in diameter.

OPISTHOSIPHON AGUILERIANUM HOLGUINENSE, subsp. nov.

Plate 6, fig. 1.

The shell is ovate-conic; the spire decollated, leaving $3\frac{1}{2}$ moderately convex whorls, the last being slightly free, openly umbilicate. The suture is well impressed. The color is light straw, ornamented by encircling rows of elongated pale-chestnut spots (often obsolete) arranged in axial rows. The sculpture consists of axial riblets regularly spaced, which expand into hollow white somewhat flattened bulbs at the suture above. The spiral sculpture is restricted to the umbilical area of the shell. The aperture is vertical, oblong-ovate. The peristome is double; the inner peritreme projects slightly, the outer peritreme is widely expanded, concentrically ribbed, adnate to the preceding whorl, without any tendency to project backward over the umbilicus. Above the aperture it is slightly bent backward and merges into a recurved siphon which passes into the space behind the last whorl. The siphon communicates with the interior of the shell through a pore. The operculum is typical of the genus. The length ranges between 8.8 to 12.2 mm.

Holotype: M. C. Z. No. 47990, from Cerro San Juan, Sao Arriba in Holguin, province of Oriente. Collected by C. G. Aguayo, January, 1930. It measures: length 11.5 mm., diameter 6 mm., length of the aperture within 3 mm., width of the aperture within 2.5 mm. *Paratypes*: M. C. Z. No. 47991, and in the author's collection, from the type lot, collected by García Castañeda and Aguayo.

This subspecies is closely related to the typical form but differs by the larger number of axial riblets, which are

nearly straight, not incurved near the bulbs above as in *O. aguilerianum*; the bulbs are less globose.

OPISTHOSIPHON CAROLI, sp. nov. Plate 6, figs. 2, 3.

The shell is ovate-conic, spire decollated, leaving three and a half moderately convex whorls, the last very slightly free; openly umbilicated, apical whorls disjoined as in genus *Ramsdenia*. The color ranges from chestnut to light straw, ornamented by encircling rows of elongated chestnut spots, giving an appearance of axial rows. The sculpture is formed by axial riblets irregularly spaced. Most of the riblets expand into hollow white bulbs at the sutures, the upper bulbs being much larger. Spiral sculpture consists of series of crenulations on the axial riblets, forming regular encircling rows. Aperture vertical, rounded-oval; peristome double, the inner peritreme is projecting, the outer is expanded, adnate to the whorl above, bent forward on the right side, straight on the left side; above the posterior angle the outer peritreme is expanded into a projection affixed to the whorl, the face of this is concentrically ribbed. Operculum typical of the genus.

Holotype: M. C. Z. No. 47992. *Paratypes*: M. C. Z. No. 47993 and in the author's collection.

Described from numerous specimens collected by the author under stones at "Loma de la Caridad", 30 Km. west of Holguin.

Measurement of the type: length 11 mm.; diameter 6.2 mm.; length of the aperture within 3 mm.; width of the aperture within 2.5 mm.

The shell ranges from 9 to 12 mm. in length, and the average numbers of riblets counted was 67.

This species differs remarkably from any other of the known *Opisthosiphon* by the disjoined apical whorls, but belongs to the group of *O. sculptum* and *O. echinatum* of the S. E. of Cuba.

Named after the Cuban malacologist Dr. Carlos de la Torre, to whom I am indebted for most of my knowledge in the field of zoology.

OPISTHOSIPHON RIVORUM, sp. nov. Plate 6, fig. 4.

Similar to *Op. caroli* in its general features, but differing in the following characters: apical whorls not disjoined; color generally lighter (in 68 specimens only 8 were dark colored); axial riblets wider in spacing and less in number (average 54), with hollow white bulbs in all the riblets at the suture both above and below; the crenulations stronger but less in number; the peritreme is more bent forward at the right side.

Holotype: M. C. Z. No. 47994. It measures: length 11.5 mm., diameter 6.6 mm.; length of the aperture within 3 mm.; diameter of the aperture within 2.5 mm. *Paratypes*: M. C. Z. No. 47995 and in the author's collection.

Described from several specimens collected at "Los Arroyos", 28 Km. West of Holguin, by C. G. Aguayo, August, 1928.

The shells range from 9 to 12.3 mm. in length.

OPISTHOSIPHON QUESADAI, sp. nov. Plate 6, fig. 5.

Shell ovate-conic, decollated, leaving three and a half moderately convex whorls, the last very slightly free, openly umbilicated. Color light straw with encircling rows of elongated light chestnut spots, giving an appearance of axial rows. The sculpture consists of numerous axial riblets. Most of the riblets expand into hollow white bulbs at the suture above. Spiral sculpture formed by series of feeble undulations of the axial riblets. Aperture vertical, ovoid; peristome doubled, the inner peritreme is expanded, adnate to the suture above, bent forward in the right side, slightly bent backward in the left side. There is a projection affixed to the whorl above the posterior angle of the outer peritreme. The length of the shell ranges from 10.2 to 12 mm.

Holotype: M. C. Z. No. 47996, from "La Cantera", San German, Holguín. Collected by Raul Quesada, August, 1928. It measures: length 11.7 mm., diameter 7 mm.; length of the aperture within 3.5 mm.; width of the aperture within, 2.7 mm. *Paratypes*: M. C. Z. No. 47997, and in the author's collection.

Differs from the two above species by the more numerous and less conspicuous axial riblets; the less projecting spiral sculpture; the larger diameter, and the form of the outer peritreme which is bent backward in the left margin. The distribution of the brown spots is also different.

Named for my friend R. Quesada, its discoverer.

TWO NEW CUBAN UROCOPTIS

BY C. G. AGUAYO

This description of two new species of *Urocoptis* from Madruga, Havana Province, Cuba, serves as sequel to the previous paper by Dr. Carlos de la Torre in which he makes known the *Urocoptis mellita* from that same region and to which the former species are related.

UROCOPTIS TENUISTRIATA, sp. nov. Plate 6, fig. 15.

Shell slender, very long, subfusiform, the largest diameter being in the first third of its length, suddenly tapering to the apex, and evenly reducing the diameter toward the base. Whorls convex, last one long and disjointed. Color dark horn. Surface opaque. Sculpture formed by dense and fine axial oblique striations imparting a wax-like luster. Columellar axis very stout and slightly twisted. Aperture rounded, peristome white and expanded. The length ranges from 22 to 25 mm., but most specimens have a length of 23 mm.

The holotype measures: length 25 mm., diameter 2 mm. Aperture 1.3 mm.

Holotype: M. C. Z. No. 47898, from "Finca El Inglés", Madruga, Havana. C. G. Aguayo, collector. *Paratypes*: M. C. Z. No. 60858, from the type lot. M. C. Z. No. 84866, from the same locality. P. J. Bermudez, collector. M. C. Z. No. 52970, from Sierra del Grillo, Madruga. W. M. Lermond, collector.

Paratypes also in the collection of Dr. Carlos de la Torre and in the author's collection.

Similar to *U. mellita* Torre, differing by its larger size, larger diameter (in specimens of 20.8 mm. in length, *U.*